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Guidance for cooperative industrial  
students



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GUIDANCE FOR COOPERATIVE  
INDUSTRIAL STUDENTS

A Thesis Presented in Partial  
Fulfillment for the Degree of  
Master of Education

By

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1930

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## INTRODUCTION

### Historical Summary of Vocational Education

Vocational education has been utilized in some manner or other since man's inception of caring for himself. It is probable in primitive times the young acquired their skill thru unconscious imitation of what their elders did and that came easy to, or was necessary for the aspiring youngster. We do know that in early society the skill and knowledge necessary were deliberately taught by the elders. Simple forms of apprenticeship have always existed among civilized peoples.

#### Qualities needed by a boy for Success in the Cooperative Industrial Course

For example, in ancient Egypt where many skilled scribes were needed at the treasury, there were schools where the lads received training to fit them for such a scribal office.

" An ideal pleasure in the search for truth,  
the pursuit of science for its own sake,  
were unknown to him". 1

"Learning possessed but one aspect for the Egyption, namely its practical usefulness." 2

1-2 Mays, Arthur, Univ. of Illinois, The Industrial-Arts Magazine, November, 1929, Historic Background of Modern Vocational Education in the United States, p 407-8



1. Introduction

The purpose of this study is to investigate the

effect of various factors on the

growth of the plant under different

conditions. The results of the

experiment are presented in the

following tables. It is hoped that

these findings will be of some

use to the reader.

The data were collected over a

period of six months.

The results are summarized in

the following tables.

For details, see the

original report.

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period of six months.

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In medieval Europe conditions were somewhat similar. Unskilled labor learned thru doing; skilled workers were trained thru apprenticeship, the learned callings, for example priests, were provided with school supplemented by apprenticeship.

#### Growth of Vocational Education and Training in the United States.

In the United States some form of apprenticeship constituted the training for any except common laborers, and even from the first, efforts were made to provide for the learned professions. Young men became affiliated with some outstanding figure in his chosen trade or profession in addition to the schooling obtained, and thus came to acquire the necessary background and practical skill. This was especially true in the ministry, law, and medicine. In this way the practical education of these learned professions was stressed as well as that of school knowledge, and became not merely a special apprenticeship, but a combination of school education and practical vocational training.

The development of vocational education along lower lines was somewhat similar to that of the higher professions. The steps followed were (1) some form of apprenticeship, (2) growth of private training schools, (3) the establishment of public training schools and classes.





## The Influence of Industrial Demands on Education in the United States

The remarkable industrial growth and expansion of the United States since the Civil War has placed an added emphasis on the need for industrial education. The early efforts to provide training for those who were to go into industry resulted in a full-time school, evening school, or a school of such type. Skilled labor must be had from some source, and in order to get such labor, education is a necessary feature, particularly in view of industry's rapid growth. European schools and industrial educational programs, especially the German systems, have been studied in order to give the American educators models along the lines of which to pattern our industrial education. Trade departments have been established in the higher technical schools for full-time day pupils and evening students. Evening classes have from very early times played an important part in the industrial education of our country. Still another type of trade schools designed for apprentices and conducted by industrial concerns has been tried, and at the present time is in operation. Concerns establishing such schools include Hoe and Company of New York City. Their school was established as early as 1872. Other companies which have schools to train apprentices are: General Electric Company, International Harvester Company,

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Ford Motor Company, Pratt and Whitney, Brown and Sharpe Manufacturing Company, and many other important corporations.

Another type of school was the endowed trade school of a sort such as the California School of Mechanical Arts, Franklin Institute, Boston, Pratt, Brooklyn, Milwaukee School of Trades. At a later time trade schools were taken over and established by the cities. It was believed that the work done in these schools was such that it would develop the mechanical powers of boys so that they would be able to turn readily to a mechanical trade. From the beginning, however, the general education obtained in such a school was stressed, and has come to be regarded as very valuable.

#### The Cooperative Industrial Course

The tremendous development of machinery and modern specialization in factories has made the training of semi-skilled and skilled workers important. As a result an attempt has been made to coordinate school and shop work under what is known as the Cooperative Industrial System.

Here we can trace direct influence from the old combination of school education plus practical experience. Industry and the schools work together for a specific training object.

Since the beginning of our specialized operations apprenticeship in the trades has declined. Various reasons may be had for this, two of the most important being that with little training a young man could become a specialized





production worker and that specialized work paid considerably better than the ordinary apprentice rate. Many desirable young workers have gone into specialized work instead of the apprenticeship. Skilled mechanics, for example, are still needed to furnish supporting services as well as for maintenance and repair work. The country has suffered from the lack of such all-around men.

Congress has encouraged vocational training, and among various schools and types of education the Cooperative Industrial Course has met with some favor. The number of cities and towns having such courses is growing yearly. At the present time there are eighty-six such places. These students are training in thirty-two different occupations. The five largest training groups are in the machinist, electrical, commercial, auto mechanic, and carpentry trades. It is from these cooperative apprentices that our future skilled craftsmen and supervisors will come.

The following figures show the distribution of workers according to figures of the 1920 census in the four leading woodworking occupations and five leading metal working occupations in the United States:

#### Woodworkers

Carpenters.....(Undefined).....	892,013
Cabinet makers.....	48,159
Sawyers.....	33,800
Coopers.....	19,060
Semiskilled and unskilled.....	608,705
Total	1,506,678

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## Metal Workers

Machinists (undefined).....	934,102
Forge men, hammer men.....	224,075
Molders.....	123,688
Boiler makers.....	80,093
Tinsmiths.....	76,772
Semiskilled and unskilled.....	1,472,800
Total	<u>2,911,530-3</u>

A great many concerns are training apprentices in their own factories, but have not the facilities to spend in developing and training the boy in what might be called the broader subjects such as: English, Citizenship and Higher Mathematics. This is especially true of the smaller industrial concerns. Industrial leaders in general recognize the need of broader training, and are trying in this manner, and through influence in the public schools, to supply adequate education for their future employees.

## Statement of Guidance Needs

The purpose of this thesis is to offer an explanation and a discussion of the guidance needs and problems of boys in a Cooperative Industrial C course. This course is designed to meet the needs of the boy by a background of general education, together with training of the type which fits him to take his place in the field of skilled industrial workers, and in later years in positions of supervisory grade.

3 W. H. Stone, Are Shop Courses in the Junior High School of Practical Value? The Nation's Schools, April, 1930, p 48





"....Helping the youth to obtain reliable and significant information upon which to base a choice of occupation, aiding him to find a suitable opportunity to begin work in the occupation of his choice, and giving him additional assistance as needed during the period of adjustment and further training after employment begins are just as truly educational service as teaching the same youth history or mathematics...."4

In a course such as I have mentioned, guidance is needed before the student enters upon his high school work, during his studies, and upon entrance into the field of industry and his chosen trade.

Any successful vocational program is based on the suppositions that those engaged in training for a vocation have chosen that vocation intelligently, are interested in their life-work, and that other factors will not prove of disadvantage in pursuing that work which has been chosen. This is all a part of our educational service and duty to such a person, and in addition he must have a continual follow-up if he is to build towards success.

#### Description of the Cooperative Course.

In order to be a little more explicit, I shall use the school where I am at present as an example of the course.\* Our studies are a good example of what the average school teaches to these cooperative apprentices. The courses studied while in school include in general:

Algebra, English, Shop Mathematics, Mechanical Drawing,

4 Myers, George E. The Problem of Vocational Guidance, p 43.

\* Bristol High School; Bristol, Connecticut





General Science, and Shop Work in the freshman year.

During the sophomore year the studies are: Shop Mathematics, Mechanical Drawing, Elementary Business, Citizenship, Shop Work. In the junior year there is more Mathematics, English, Advanced Shop Technology, Industrial Civics, and Mechanical Drawing. The senior year is devoted to more advanced studies than are given in the average high school courses, and include Higher Shop Mathematics, Machine Design of some type, Industrial Chemistry, English, and Drawing related to machine design.

Following the first year of school there is a tryout period directly at work in the shop during the summer months, after which the boy enters upon a program consisting of two weeks in the shop and two weeks in school for the following three years.

The Cooperative scheme tends to keep a boy in school longer and to have real contact with industry while still going to school. He secures simultaneously the technical knowledge of his trade and his training in industry.

This method of allowing a boy to have his tryout period gives him an opportunity to see working conditions and to experience problems of industry at first hand. He can never gain this experience in the school shop. The school shop merely serves as a sort of introductory point where he learns the difference between various machines and tools. The actual carrying out of what he has learned means much more than working in school.

and out of the way, and the other side of the road.

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He must have the supervision of the foreman, companionship of the men, the demands for work, accuracy, and speed. We may aim at these latter points of accuracy and work production in school, but the environment where the work is done makes a great deal of difference. A boy entering upon industry should be given every means to really ascertain whether or not he is fitted for the work, and what better test of this is there than to actually carry out the work in its proper environment?

After the completion of his high school course he is awarded a diploma certifying his graduation from high school, and upon the completion of a certain number of shop hours he is granted his apprenticeship papers and a bonus from the concern from which he has served his time. For his work in the shop he receives remuneration based upon a sliding scale.

It is not my purpose to enter upon a discussion of the course beyond this description which is necessary in order to understand the guidance need and program. It can readily be seen that a boy in this course hoping to do satisfactory work needs a considerable amount of guidance during his first year. In another course decisions regarding his later life may often be left for a longer time without serious handicap, but a decision made and a program started upon must be rather strictly adhered to both from the viewpoint of industry as well as the good of the boy.





Mr. Stone in his article, "Are Shop Courses in the Junior High School of Practical Value" suggests as follows:

"1. The exploratory objective receives little or no consideration from teachers and supervisors of industrial arts. The majority of such claims are being made by educational theorists.

2. The shop offerings are not such as to explore fully the occupational field, although the courses that are offered are fairly well organized from the standpoint of including the most important operations, processes, materials and tools of the occupation. The courses, therefore, might well be used for the purpose of occupational exploration. The failure of the courses to function in this respect is due to the indifference of the teachers toward the exploratory objective of the industrial arts.

3. The matter of teaching methods needs more serious consideration on the part of the industrial arts teachers. Better teaching methods might materially aid in making the shop courses function for the purpose of occupational exploration.

4. No records of a boy's abilities as revealed in the shops are being kept to use as a basis for advice and counsel in the forming of his plans for his future nor are any records kept to show whether or not a boy has been in any way benefited by taking the courses. The usual school procedure of leaving the matter to chance is being followed in most of the schools in Wisconsin." 5

#### The Need for pre-high school Decisions in Choosing a Course.

While in grammar school a pupil must decide to some extent regarding his course in high school. It is at this point that the advice of a skilled counsellor is needed. In our city at the present time we have the district system, and this hinders us considerably

5 W. H. Stone, Are Shop Courses in the Junior High School of Practical Value? The Nation's Schools, April, 1930 p 50.





in helping out the pupils. The grammar school principals and teachers do all they can, but naturally are neither trained, nor have the time to give to such an important function. It must also be remembered that in a small city the school board cannot afford counsellors in the different schools, and this fact is very clearly brought home in the district system. However, the superintendent and principal of the high school generally make tours of the grammar schools and give talks which the parents attend, and the pupils also, for opportunities to talk over with the teachers and principal the curriculum they are considering.

"There is need of a wider vision. There is too much of a tendency of shop for the shop's sake and not enough for the boy's sake. The great purpose of industrial arts is to teach certain important and significant elements of civilization--to represent the industrial and mechanical side of our civilization within the school border." 6

#### The Buffalo, New York, Plan of Self-Guidance

In Buffalo, New York, a plan of individual enlightened self-guidance which might be used under similar conditions has been worked out. A campaign is entered upon each year to acquaint the grammar school students with the opportunities available in high, vocational, and technical schools by means of tours the principals make speaking to the graduating classes.

6 W. H. Stone, Are Shop Courses in the Junior High School of Practical Value? The Nation's Schools, April, 1930, p 48





This campaign also includes, "the distribution of informative literature to the graduates which they are expected to take to their parents; visitation by all the boys of vocational, technical and general high schools; visitation of a select group of girls to new and distinctive types of courses open to them; a general program of promotion and stimulation thru publicity and the active co-operation of special teachers with the grade teachers who are finally held responsible for supervision of the preparation of the decision record of every graduate of the elementary schools." In addition to this process, the students "are made aware of their apparent abilities and capacities." In such manner the authorities feel they are allowing the young people to have such material that will enable them to make their own way and to serve to make them their own guides.

#### The Need for Determining and Knowing a Boy's Interests

Cooperative Industrial students must make a fairly permanent decision upon entering high school, since the work of the course differs greatly from that of other curricula after the first half of the freshman year. In many cases it is difficult for the grammar school teacher to know whether or not the boy in her charge is fitted for such a course. Her contact with him is rather in the nature of the basic studies. We should





consider the records of the manual training supervisor, the drawing teacher, apart from the boy's marks in his regular subjects. In this way some light may be obtained as to whether or not the boy has proven successful in those two subjects.

The urge to create, assemble, finish, repair, is a natural self-expression. It is as much a self-expression as music is to the musician, or a painting to the artist. Mechanisms will not appeal to the imagination of every boy, but one fitted to be a mechanic will have an urge to take a clock apart and put it together again. He builds a wagon, boat or clock--really a case of self-expression. When a mechanic overhauls your car he locates the trouble--fixes it. It is much easier for him because such is his natural impulse. The same ability is in evidence in the plumber, machinist, painter, carpenter--in fact in any skilled tradesman. Without such an instinct or a sense of wanting to express one's self a boy should not enter or continue in this course because the work will not be easy for him, he will not be happy in it, and when he enters upon competition with others he is seriously handicapped. Therefore, when counselling a boy who is considering entering upon the Cooperative Industrial work and apprenticeship, the counsellor must seek to determine this factor.

The boy must be allowed an opportunity to express himself both mentally and manually. Various factors may





influence the advising beyond the fact of the boy's self expression. The boy must, of course, become as far as possible a known quantity, that is, considerations having a direct bearing upon his decisions and relating to his aptitude and ultimate possibilities must be considered.

Try-out Courses and Tests as a Means of Determining fitness for a chosen career.  
Intelligence Tests.

Tryout courses such as we have in the Junior High Schools of our larger cities contain opportunities for a limited amount of such discovery. Aptitude and intelligence testing present other means of determination.

The Counsellor's methods of Making the Boy a Known Quantity.

Here the adviser, or counsellor, enters upon a field possessing vast possibilities, and but recently thrown open. Comparatively little has been done in aptitude testing, and the tests that have been used need more seasoning to determine their exact worthwhileness. Mental tests are a recent introduction in educational procedure, but their usefulness and value for academic studies is clearly proven. It is perfectly obvious that any student to be successful must have some mental capacity.

" Mental tests show a positive correlation with other factors closely related to the high school pupil's progress. An effective counseling





program must, therefore, include mental testing as an essential feature." 7

### Aptitude Tests.

General intelligence is not the only factor one must consider in guiding a would-be Cooperative Industrial student. Mechanical ability is an absolute necessity for success in any given mechanical line of work. How much value aptitude tests have in discovering such ability is not as yet satisfactorily proven. Undoubtedly a counsellor obtains some clew to apparent adaptability of the candidate for a given trade.

The Stenquist Mechanical Tests have a considerable reputation for such probable "prophesying." Johnson O'Connor of the General Electric Company has devised a series of trade tests, and has proven their value in reducing turnover and misfitting at his company. Browne and Sharpe Company of Providence use the Wiggily Block test of O'Connor in choosing their candidates for apprenticeship. They place great reliance on this test.

Undoubtedly other tests will be developed, but no counsellor should place an absolute or final reliance on such tests until they have been perfected.

"No child should be deprived of opportunity for at least a reasonable trial in any subject in which he has a deep interest." 8

7 Virgil E. Dickson, Ph.D. Mental tests and the Classroom Teacher p 193

8 Virgil E. Dickson, Ph.D. Mental tests and the Classroom Teacher p 181

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The duty of a counsellor is not to make the child's program, but to aid him in his process of self-discovery, pointing out his strong points and evident capabilities, and warning him of any deterrent . To this end tests should be used. His qualifications for industrial work must be understood and their importance realized, and then, of course, we must have that ever present factor in mind, namely: the capability of industry to absorb the new comer. In this respect we must look ahead a little and consider both the natural development of the industries, the natural turn-over, and the labor laws and attitudes.

#### Interviews.

An interview is always a necessary adjunct when deciding upon a chosen curriculum, both from the applicant's viewpoint, and that of the school. As I have mentioned previously, factories can absorb only a certain percentage of apprentices, and this fact must be borne in mind. If the apprentices were trained merely to be factory operators, such would not be the case. Of course, competition later on will wipe out a large percentage of those who enter industry, but we should try to prevent such loss as early as possible.

During the interview the boy should become a known quantity, especially in regard to his reasons for taking the course, his background, interests, hobbies and





purpose. A great many boys when at the age of thirteen or fourteen imagine they would like to become mechanical engineers, their knowledge of this extending no further than having seen mechanical engineers entering one of the factories, or wish to become electrical engineers because they can hook up a battery and make the front door bell ring. I have had boy after boy say, "I took the course because I was interested in mechanical things and machines.", and upon questioning him regarding his interest, it seems it was merely that he had seen machines run, and had the natural liking of a youngster to see things move; but little beyond "looking on".

#### Cases of Boys and Schools.

In grammar schools of the present day we have the scores of the boys in intelligence tests, in other words, their I Q's. Some of the Parochial schools I have come into contact with do not have intelligence tests as yet, and others have tests of little value. Wherever possible we consider the I Q of the boy, but do not place an absolute and final reliance on it. We do not turn from a low I Q and give a high I Q undue preference. Each of two lads in such conditions is good for something, and as counsellors we should steer him to one course, a college technical, or industrial training course. I shall have more to say about this last later on in my discussion.





At the present time there are two boys in our freshman class, one of whom has a I Q of 120, the other an I Q of 78, yet the boy with the I Q of 78 not only has much higher marks in his mechanical ability tests; in fact, in mechanical ability he rates among the foremost boys of the class, but also in his studies, which are a full grade higher than those of the boy with the high I Q. It is not a question of the higher I Q, nor the wrong curriculum. The last named boy wants this work. He has the ability, yet the personal equation, namely: his attitude and incentive, are what make the difference.

Fort Bragg, California, has a rather extensive scheme of testing and guidance. Their testing program is as follows:

Grade	Mental Tests	Reading Tests	Arithmetic	Achievement Tests
1-4	Binet			
5	National Int.	Thorndyke-McCall	Woody-McCall	
6	National Int.	"	"	Stanford Achievement
7	Haggerty Int.	"	"	"
8	Terman Group	"	"	"
9	Terman Group			"

"Culmative cards are kept with records of these tests along with teachers' opinions, and given to the High School. From them we base or make temporary judgments about pupils for any work in high school. We have given but few mechanical skill tests--none with satisfaction for selection."

At the present time there are two men in the

district, one of whom was a 1st Lt. and the other

was a 2nd Lt. The 1st Lt. was a 1st Lt. and the other

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## Adjustment of Boy to an Adequate Education.

In addition to this program of tests, the pupils are allowed to choose their courses. Those who choose the Industrial Course are considered in relation to training successes and habits of work. After interviewing the industrial co-ordinator and instructor, those qualified are selected. A period of time is allowed for the pupil to adjust himself, and he is studied during this period. During the four years about 5% of those allowed to enter the course have dropped out. Several other cities who had no definite guidance system or testing program reported drop-outs of 50 - 60 percent. And yet one cannot rely entirely on intelligence or aptitude tests. I quote from Superintendent Good of Fort Bragg. "It is not always the most successful in school work who makes the best in a trade. Personality in some trades is the best criterion for success taken with habits of industry."

- "1. In providing for curriculum and course-of-study adaptation, intelligence tests should not be too exclusively relied upon for the proper classification of pupils. They are a valuable instrument, but not the sole means to be used in grouping children for purposes of effective instruction. The judgment of teachers and the past achievements, interests, and future plans of pupils must also be taken into account." 9

9 Fundamental Principles for the Differentiation of Courses of Study. Research Bulletin of the National Educational Association, Vol. VII, No. 4, September, 1929, p 186.

THE UNIVERSITY OF CHICAGO

IN THE DEPARTMENT OF THE HISTORY OF THE UNITED STATES

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A boy selecting the "Coop." course must have guidance and help in determining whether or not he is fitted to carry on the work, or whether he should pick a course which would lead towards a technical school and more advanced work. It is true boys having completed this course may go on to higher institutions, in fact four of the boys from Bristol High School's graduating class of last June are entering technical colleges. These boys are rather exceptional, and would not probably have made the decisions in the high school technical course that they have made in the Cooperative Industrial Course. This may be partly a financial reason. Another reason for this is the fact that boys in the Cooperative Industrial Course learn self-reliance and dependability more quickly than the average high school student, and if properly used, prove very advantageous.

Qualities needed by a Boy for Success in  
the Cooperative Industrial Course.

The counsellor must of necessity steer away such as would not make a success in industry. He must turn into other channels those who seem to have possibilities of more success along college or technical lines. He must consider the absorption possibility of the trades. He must study the maturity of the boy, and beyond all these things, the character, physical and mental make-up of the boy playing a large part in his future success and adaptability. These things must all be considered





as problems in themselves. Of course the aptitudes and trade adaptability must not be lost sight of. And yet, each boy who enters the course will not be successful.

A school official once made the criticism that a course of this type is very undemocratic. Evidently he assumed this from the very fact that unless a boy is of a certain mental calibre and abilities, he is refused admittance or is forced to change his course. Is it not true that our principles of democracy maintain that a person should have the opportunity to make the most of his abilities and strive toward service to others and happiness to himself? He certainly could not do this if allowed to continue along lines where he is a misfit. We might stop, however, and consider the boy with some ability, but not of calibre for the demands of such a curriculum. As an educational system, we are in duty bound to help him gain training to make the most of what abilities he has. Such a problem is continually before anyone giving guidance, and it is time we recognized the need of giving such training.

With a recommendation from the grammar school officials, his records in manual training, drawing, and marks in standard subjects, plus his ability test and interview, we are in a position to rate the candidates according to the degree of success they have already made in school. If two boys enter industry together, there is bound to be competition between them, and the





better man will win. The other will probably be disappointed. If he can be steered into the proper channels earlier, his disappointment need perhaps not come, since he may be successful in another field of work.

The adjustment to high school is a difficult one, and the adjustment necessary in a course of this type demands a boy with a matured sense of dependability. One of the troubles teachers in industrial work come upon is that of discipline. Of necessity the classes are conducted in a different manner from that employed by the regular classical teacher, and a boy must be able to take care of himself a certain percentage of the time, find work, attend to business without being in a noiseless room sitting down, or being under the teacher's eye. A boy without this sense of dependability will not derive the benefit he should, and generally will fall by the wayside. After the boy has entered high school there is a possibility of dealing with such a problem, and many cases will respond to the proper treatment.

Very often a word or two may make infinite change in a boy. I have in mind a young lad bubbling over with spirit, fun and sometimes general contrariness. It was always more fun to loaf and to laugh than to attend strictly to his studies. For several weeks he had been growing more and more obstreperous, until hailed before the principal. Very few but well meant words were said to him, among which was the statement

1. The first thing I noticed when I stepped out of the car was the cold air.

2. It was a sharp contrast to the warm blanket of the car's interior.

3. The wind whistled through the trees, creating a symphony of rustling leaves.

4. I took a deep breath, feeling the cool air fill my lungs.

5. The scent of pine needles and damp earth greeted me.

6. I walked slowly, savoring the textures of the forest floor.

7. The ground was soft underfoot, covered in a layer of fallen leaves.

8. I saw a small stream flowing gently through the woods.

9. The water was crystal clear, reflecting the surrounding trees.

10. I heard the chirping of birds in the distance.

11. The sun filtered through the canopy, creating dappled light.

12. I felt a sense of peace and tranquility wash over me.

13. The forest seemed to breathe with me.

14. I walked until I was tired, my legs aching from the journey.

15. I sat on a log, looking up at the towering trees.

16. The air was still, and the world seemed to hold its breath.

17. I felt a small butterfly flutter by.

18. The forest was alive with the sounds of nature.

19. I took another deep breath, feeling the cool air fill my lungs.

20. The forest was a world of its own, a place of wonder and beauty.

21. I walked back to the car, my heart full of memories.

22. The sun was low in the sky, casting a golden glow.

23. The forest was a masterpiece of nature's art.

24. I felt a sense of awe and wonder.

25. The forest was a place of magic and mystery.

26. I walked home, my mind filled with thoughts of the forest.

27. The forest was a place of peace and tranquility.

28. I felt a sense of connection to the natural world.



that he was a "pest." He came back from this conference in a very chastened frame of mind, informing me shortly after that he had been told he was a pest. He rebelled against this opinion, and has made a hard struggle to get back into the teacher's opinions other than as a pest.

A counsellor must be able to dig into such a boy and stimulate his efforts to going in the right direction. Each case presents itself with various methods of succeeding.

Classification may be of Value.

When the boy is ready to enter high school we will naturally be in a position to classify him according to the grammar school record, various specific subject findings, his ability test, interview, and in some cases, the I Q.

Edwin A. Lee, in his article, summarizes the problems of a counsellor to a nicety.

"From the point of view of setting up an effective program of vocational education, then, it is absolutely essential that every child who enters a training program shall have received intelligent and sympathetic guidance from a qualified counsellor concerning at least the following questions relative to the specific vocation in which he may be interested:

1. What are the requirements of the vocation as to
  - a. number of workers needed,
  - b. type of person desired,
  - c. training necessary.
2. What are the opportunities for progress in the vocation?
3. To what extent do I possess the qualifications required for employability or success in the vocation?

and the "Globe" in the year 1891.

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4. What is the extent and cost of training necessary for entrance to the vocation and where may it be obtained?" 10

At the beginning of the present school year I classified for the first time the entering group of Cooperative Industrial students in the high school with a view of segregating those liable to failure from those able to learn more readily. This classification was based upon the data discussed.

After the first two weeks I moved three boys from the B division to the A division--the vacancies in the A division having been caused by the boys changing their courses or failing to report at the beginning of the school year. There were two or three doubtful cases in the A division who were kept there, and in one case hopelessness was manifested from the start. This case was one of extreme immaturity both in mental outlook, actions, study habits, and social contacts. In our school we have a rule that after the first week no boy may shift his course until midyears, which is sometime in January. However, any boy who fails a subject three successive periods, these three periods ending near the middle of December, must drop that subject. In the case of the boy above mentioned, every subject has been failed.

10 Edwin A. Lee, Guidance The Basis of Effective Vocational Education and Adjustment, The Vocational Guidance Magazine, April, 1930, p 314.

1. In the first part of the paper, the author discusses the importance of the study of the history of the United States.

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Such classification worked very well. At mid-years when the two divisions combined very few from the lower division were allowed to continue. Many had already dropped out or were told they could not go on, and so must enter some other course. A very few were kept, having shown sufficient promise of capability.

Shortly after entering high school an intelligence test should be given, irrespective of whether or not an intelligence test has been had in the grammar school. In doubtful cases a retest ought always <sup>to</sup> be made, using either a different form of the first test or another intelligence test. I gave an intelligence test to the entire group shortly after entering school this past fall, and a month later retested all cases which I considered doubtful, or who were not doing work of a standard such as might be expected from their I Q and mental age. The first test used was the Otis. The retest was a Terman. Personally, I like the Terman, and in general it rated one or two points lower than the Otis, except in the case of high I Q's. I was also interested to note that one or two boys who had improved considerably during the second month of school made several points higher on the second test. The work of these boys, their attitude and general behavior, had also improved. Probably their manner of going at the test was influenced by better work and study habits





or attitudes.

### Guidance Necessary Thruout High School Course.

It is not enough to have guidance before entering high school, and then a classification, but constant study of the boys must be maintained. Continual adjustment goes on thruout the student's life, and he needs the help of a counsellor then as much as in make<sup>ing</sup> his choice. It is obviously impossible to correct or aid a student in his development individually because of our present-day large groups in school. Much time may be saved by doing a certain amount of this work in an orientation course or general guidance course, and from here work on the individual problems. I have worked out such a course, and am experimenting with it this year. Following is an outline of the course:

#### Orientation Method.

#### A. School Life

First half-year

1. Description of school
  - a. Location of rooms etc.
  - b. Teachers and departments
  - c. School routine (hours, vacations, absences, transportation, etc.)
  - d. Importance of study, assignments, and making up work missed.
2. How to apportion time
  - a. Home-work
  - b. Study periods
  - c. Recreation and exercise
  - d. Sleeping and eating
3. How to study
 

Reading subjects (memorizing)

THE HISTORY OF THE  
REPUBLIC OF THE UNITED STATES OF AMERICA

It is not until the year 1776 that the United States of America was declared independent from Great Britain. The Declaration of Independence was signed on July 4th, 1776, at the Continental Congress in Philadelphia. The document was signed by the delegates of the thirteen colonies, and it declared that the colonies were no longer part of the British Empire. The Declaration was a bold statement of independence, and it was a turning point in the history of the United States. It was the first time that the colonies had declared their independence from a foreign power. The Declaration was signed by the delegates of the thirteen colonies, and it declared that the colonies were no longer part of the British Empire. The Declaration was a bold statement of independence, and it was a turning point in the history of the United States. It was the first time that the colonies had declared their independence from a foreign power.

THE HISTORY OF THE  
REPUBLIC OF THE UNITED STATES OF AMERICA

1. The Declaration of Independence, 1776
2. The Constitution, 1787
3. The Bill of Rights, 1791
4. The Louisiana Purchase, 1803
5. The War of 1812, 1812-1815
6. The Missouri Compromise, 1820
7. The Texas Annexation, 1845
8. The California Gold Rush, 1848-1855
9. The Civil War, 1861-1865
10. The Reconstruction Era, 1865-1877
11. The Gilded Age, 1877-1900
12. The Progressive Era, 1900-1917
13. World War I, 1914-1918
14. The Roaring Twenties, 1920-1929
15. The Great Depression, 1929-1939
16. World War II, 1939-1945
17. The Cold War, 1945-1991
18. The Vietnam War, 1955-1975
19. The Watergate Scandal, 1972-1974
20. The AIDS Crisis, 1981-1990
21. The Persian Gulf War, 1990-1991
22. The Clinton Presidency, 1993-2001
23. The 9/11 Attacks, 2001
24. The Bush Presidency, 2001-2009
25. The Obama Presidency, 2009-2017
26. The Trump Presidency, 2017-2021
27. The Biden Presidency, 2021-Present



4. How to study  
Analyzing studies (Library)
5. Extra-curricula activities
  - a. Athletics
  - b. Non-athletic
  - c. Social
- 6-7. Discussion of special difficulties with opportunity for personal aid.
8. Making the most of abilities.

#### B. Character Aims

9. Responsibility and good-will
10. Cooperation and competition
11. Self-control and leadership
12. The value of habits.
  - a. Inner satisfaction comes from work fairly and well done.
  - b. Thoroughness, promptness, initiative, dependability make for efficiency.
13. Discussion of school problems in light of the above findings.
14. The value of an education
  - a. The purpose and tools of study
  - b. Applications toward better living from habits and knowledge gained from a proper education.
  - c. Education continued thruout life.
15. The importance of health in school and shop.
  - a. Poor health as a handicap.
  - b. Detriments to good health we can avoid.
  - c. How to keep healthy.
16. Am I fitted for the Cooperative Industrial Course
  - a. By desire and will to succeed.
  - b. By temperament and aptitude.
  - c. By realizing and conquering shortcomings.
17. How to study for examinations
18. General discussion

Second half-year

#### C Occupational Information

##### and Guidance

1. The purpose of the Cooperative Industrial Course during the remainder of this year and the

1. The first part of the report  
describes the general situation  
of the country and the  
state of the economy.

2. The second part of the report  
describes the state of the  
economy and the state of the  
country.

3. The third part of the report

- 1. The third part of the report  
describes the state of the  
economy and the state of the  
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- 2. The fourth part of the report  
describes the state of the  
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- 3. The fifth part of the report  
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- 4. The sixth part of the report  
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- 5. The seventh part of the report  
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- 6. The eighth part of the report  
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- 7. The ninth part of the report  
describes the state of the  
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- 8. The tenth part of the report  
describes the state of the  
economy and the state of the  
country.

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- summer months. (if possible talk on this by the director)
2. Special problems and questions discussed.
  3. A bird's-eye view of industries in general.
  - \*4. The machinist
  - \*5. The tool-maker and die-maker
  - \*6. The draftsman and engineer
  - \*7. The pattern-maker
  - \*8. The foundry man
  9. Discussion of all these branches.
  10. Factory administration and responsibility.
    - a. General consideration of departments.
  11. True apprenticeship
    - a. Shop-work and experience
    - b. School-work and tools of study
    - c. Opportunities and duties
  12. Industries of city open to apprentices.
    - a. Products manufactured
    - b. Trade opportunities
    - c. Advanced apprentices in plants.
  13. Characteristics need for success in the shop.
  14. The uses of trade papers and books.
  15. Subjects to be studied in future years.
  16. Opportunities for success and satisfaction
    - a. In school
    - b. In the shop
    - c. As a citizen of the community
  17. Getting ready for work
  18. General discussion.

\* These topics will be opened with an informal talk by a senior or junior apprentice. Elaboration, discussion and further information will take place under the teacher's guidance allowing the students to question the speaker if such seems wise.

As may be seen from the outline, the purpose of the course is to give the boy during his first half-year, and particularly during the first term, opportunity and help in becoming acquainted with the proper study and attitude outlooks. After the boy has become acquainted with school the discussion centers along lines of school activities, and a discussion of problems





with actual cases taken from sports, industry and general school activities in which the boy is interested at that particular time.

#### Problems Arising in Class Discussions.

To illustrate one or two cases, when discussing cooperation, we also discuss the workings of the back-field of a football team. When discussing dependability we may use football and basketball. One of the boys, who, recently dropped school, brought out a most interesting discussion when we talked about reliability. He claimed that a person could not be reliable and keep his friends, giving as an illustration an officer arresting a friend for carrying liquor. A case such as this may quickly be turned to advantage by considering, as we did, the case of a referee in football and basketball who favors a school on the home grounds, and the next week when the team is playing its opponents away, the same referee is in the other city. Would we trust him as much? Discussions such as these give the teacher, who should be the counsellor, an insight into the boys' characters and attitudes, and often serve as clues to problem cases.

Character building has its place. After mid-years, when those who have made a failure or who seem better adapted for other work have been transferred, we deal more specifically with occupational problems that will





soon come to the boy. By allowing him to meet boys and to know older boys who are in the shop and who are actually working, a more definite meaning is given to his subjects. Of course the boys picked to help in this work by giving their ideas of the job they are doing must be hand picked, and a counsellor will do much better to take over this himself unless the proper boy is available. Preparation for work is an important item, and would otherwise have to be done individually.

Needless to say, when an apprentice starts in a job, numberless pranks, tricks and initiations take place, with him as the goat. It is of little use to condemn such a practice, since the industrial workers get little fun, and this serves as a sort of bright spot, and has probably been done ever since early days. It does not harm the boy, and in fact, often helps him to find himself much quicker than he otherwise would. The tendency seems to be for the boy to feel that he is now in the shop, is a man, knows a little something, and he tries to give this impression. Generally failing to do so, the men interpret him as a wise guy. To get some of this "smacked out of him," as shop "lingo" would put it, does little harm, but I believe the boy should be forewarned, and made to see some of the difficulties which might be avoided. I have had boys in their junior and senior year come to me and ask why one of the men





working with them is so set on never allowing a window to be opened, why another may always want something done just so. Of course, such men have been working for years, and their idiosyncrasies must be put up with.

Thruout the entire Orientation Course the counsellor comes upon individual problems which he senses through the discussions and questions of the boy, as well as through conferences with his other teachers, his marks and school activities. The boy may then be talked with and his individual case studied. I think such an orientation course gives the counsellor the most efficient way of getting across the high school adjustment, the character building, and specific occupational information and work preparation. Everything cannot be done in groups and in classes. Some work must be done individually, but yet to do all the work covered by such a group individually would be a waste of time and an impossibility under our present school systems.

#### Changes Necessary Due to Factors Beyond Control of the Boy or the School.

A great many of the boys who do not make a success of the Industrial Course have a tendency to leave school, and either go to work or drift along. Some, however, are steered to other courses, and make successes there. It is not my purpose here to enter upon a discussion of what to do with those who drop, or a preventative for dropping. A counsellor may make many wise adjustments





to other courses. I have in mind one boy who was not fitted for our course, and at mid-years last year had to shift. This boy has a high I Q, did well in his subjects, such as were not connected with shop and drawing. He was shifted to the commercial course. I had talked with the boy once or twice regarding his future plans, and had hoped he would go on to the technical schools. He did enjoy this work, but could not do so on account of the fact that his mother is an invalid, and he takes care of her outside of school hours. He is an only child, and feels he must keep to the commercial course so that he may stay at home more than he otherwise might. Such a decision may seem disappointing, yet it may prove a good thing after all.

"Most of the waste in modern education possibly results from the fact that our system fails a great many pupils. The obvious remedy is out of the question on account of cost; the obvious remedy that is a private tutor for every pupil who is so constituted that he cannot work in the class. But it is possible that some understanding of the pupil can be gained that will give the clue to the reason why he has failed to adapt himself to his fellows, more, that will make it possible for the teacher to assist the pupil in bringing about the necessary adaptation, with beneficial results, which is happiness and success." 11

#### Cooperation with Factory Authorities.

Toward the end of the freshman year the boy must make a more specific decision in regard to the type





of work he may take up in the shop. No boy should enter into any contract whatsoever until he has had a tryout period in his chosen line of work. This tryout period should be in the shop. It is all very well to have so-called tryout courses in junior high school and the upper grammar school grades, but in them a boy has not met the actual shop problems, attitudes and demands upon him that he must get when at work. Every boy in our set-up must sign a contract with the shop and school when he has chosen his course, but he cannot do this until the fall of his sophomore year.

During the summer months the boy has a chance to meet industry at first hand. The foreman and supervisors in the shop have their opportunity to try out and to judge whether the boy will prove satisfactory to them. The cooperation between the industrial leaders and the school authorities should be very close and harmonious. With the opening of school in the fall the director of the course should make the final arrangement, sign the necessary papers, etc., thus making the boy a regular apprentice and at the same time a high school student. The success of such a plan where it relates to a future adjustment is very largely dependent upon the close cooperation of the authorities concerned. Industrial authorities are generally willing to do their share, and even to put themselves to considerable trouble in helping the student. At the end of each marking





period a report should be sent from the school to the factory, showing his grades, and containing comments upon his work in school. A good deal of this work may seem at first hand to be more in the nature of routine, but upon examination it will be found that it bears very directly upon the guidance of the boy in his career at school and work.

#### Citizenship Courses as a Means of Guidance.

"The man who attempts to destroy his social obligations pays the penalty in one way or another. Whatever the evil conditions may be that are permitted to exist in any community, they reflect the social interest of the majority in that community." 12

A course to combine problems of citizenship with vocational civics, and carry throughout the purpose and aim of making a better citizen, a better worker, and aiding in a better and more efficient adjustment to latter-day problems may be used for general guidance during the second year. Such a course should be written out in the nature of problems and questions, and the main work consists in a discussion of these.

It is necessary to give the boys an understanding of the duties of the individual to society and also the benefits he derives from a successful participation with society. In our school we start with primitive man, and compare his problems with our present social

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system, and so give an idea of the historical background. A short description of the important forms of the world governments, both past and present, follows this introduction. We also consider the evolution of the United States, looking into various citizenship problems and interpretations by men of the Pilgrim, Colonial, Civil War and present-day times. From such a background we study the state and the city and the community. We have now reached the stage where it is possible to discuss national problems of present-day significance, and to consider what the future course of events may be. From such a consideration the boy is led to think in terms of himself, his faith and desires to a successful and happy adjustment industrially, socially and in civic affairs. During such discussions and reports the ideas and attitudes of the boys are clearly brought forth, and opportunity is given for adjustment in this very important phase of life.

Thus we should seek to help the student become acquainted with more of the cardinal principles of educational experience, those which concern him in the use of leisure time and vocational and civic adaptation. During the junior year a general checking up of the students' progress should be had. A little time spent in such work or conference with a boy may bring much value, and help avoid future trouble.

I believe the boy who is training for industrial leadership and work needs to be able to appreciate the





reasons why people often act as they do, and not only to appreciate this from a worker's standpoint, but from that of the man in charge.

#### Problem of Maladjusted Students.

As I have stated previously, in order for any type of work along Cooperative Industrial lines to be successful, there must be a very close and constant interplay between the factories and school. Any work in guidance that may be done in school and not carried along by the factories is a dead loss, and on the other hand, for the factory to attempt certain measures with the boy without the consent and consultation of the school, amounts to the same thing. Of course every case handled is not brought to a happy ending. We had one boy in particular who scraped through his first three years, and barely edged through his senior year. He was constantly on the mat, both at school, and at work, and every effort was made to help him to make something of himself. He was shifted from department to department, and finally at the close of his senior year in high school he was placed in the factory under a department head who had formerly been a teacher, and was very much interested in helping boys find themselves. This foreman had a very high rating among his men and superiors. Eventually he was forced to give up any idea of developing the boy. Occasionally one finds a drifter who should





have been dropped from this course in his first or second year.

In any course, in fact in all high school courses, there is a large percentage of students who start and who drop by the wayside. Some of these students are absorbed in various hard-working types of labor, some by stores and small shops, but undoubtedly the great majority take their places in the ranks of unskilled factory operatives. Some of these have neither the ability nor imagination to become more than merely a routine worker. They are satisfied with this as far as they understand satisfaction, and undoubtedly have found their niche in life. Some others drift from place to place, and perhaps do not come to as successful an end as those just mentioned.

A few days ago I met one of these boys who had not been able to make the grade, and therefore was forced to leave school and go to work. I asked him what he was doing, and he told me he was in the clock department of one of our factories winding clocks. Later on he hoped to become adjuster of movements, and according to him, that was a very fine job. He looked forward to that with all the zest and zeal that someone else who has graduated from college and entered a business career looks forward to a vice-presidency or presidency. What provisions in education have been made for boys of this type? According to our ideas, the function of education is that these boys and girls should be given an adequate preparation

There is a large number of people who are interested in the subject of the

present time.

It is a subject which is of great importance to the people of the country.

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for life. Most of them do not have the mental capacity to gain what is considered the required fundamental studies of a high school education. One must admit that Latin and Algebra would do them little good, yet on the other hand, of what uses are the manual arts beyond the slight skill or momentary enjoyment the student may receive from this?

From the beginning of the freshman year until the end of the same year, fully 50% of those enrolling in the Cooperative Industrial Courses are forced to leave. As I have previously explained, some change to other courses, and others drop out. No one is sure where these last go, unless one looks through the employment certificate records. Is it enough for these pupils to have had merely a grammar school education, and then find themselves a failure in high school? A feeling of inadequacy and disappointment has come to some. A feeling of despair, and perhaps of ill treatment has developed among others. Those who have changed their courses to the Commercial or General really are getting little preparation that will serve them for the future, They have neither the ability to do typewriting, clerical work, nor the mental capacity to go on to higher schools. We are fostering in these future citizens a feeling that may sometime prove hostile to education, namely, that school did little for them, and brought them small return for their years of attendance. I do not mean by this





statement that the school is to be blamed in the least. It is giving them the best it has. They cannot grasp what they should.

"....Mental diet must be varied according to the ability of the individual child to assimilate it. The school must present to children of little capacity subject-matter that they can grasp, and to children of unusual capacity, subject-matter which will stimulate them to full effort...." 13

Manual Training as Taught, is Ill Suited  
to Boys' Needs.

I have visited manual training schools where an attempt is made to allow such pupils to do what work they are able to in shop and in allied subjects. When such a boy is taken into a factory, what he has learned in the school shop is not applied. He is a factory operator, and goes in to productive work. Generally it takes better brains, and in addition something we might call incentive, for one to become a machinist, tool maker, or die maker. There are some characteristics or some qualities that he lacks, and have kept him from going on to learn his trade while at school. A great deal of puttering around in the school shops goes under the name of education, but I believe most students realize that it is largely a waste of time.

Adjustment to an Industrial Life Needed.

Such are the conditions under which our future

13 Curriculum Building for Pupils of Different Levels of ability. Research Bulletin of the National Educational Association, Vol. VII, No. 4, September, 1929, p 183.

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citizens enter upon industry, that is, those who have had to drop from a curriculum of the kind we have in our Cooperative Industrial Course. It does not seem possible, then, for a pupil who does not fit into the standard courses of College, Technical, Academic, Commercial, Industrial, to receive a preparation which will be adequate to his needs, and from which he may attain standards, ideals, and an adjustment to life as he will find it. It may sound idealistic to ask for such aims as these, but I believe we can travel a step or two toward reaching such goals. I should suggest a course lasting approximately two years, not with the idea of having the student become a skilled shop worker or to obtain a smattering of the general course, but to give him studies which will help him in his industrial adaption, in his future homebuilding, his civic duties, his own small business affairs, and an appreciation of the things beyond merely the newspaper, such as books, magazines, and scientific articles. A good many of our poorer students pore over the scientific magazines, deriving enjoyment from the pictures and illustrations. Such is undoubtedly more beneficial than reading the more lurid stories of true life we see advertised. Zane Grey or Conrad may prove much more enjoyable than Shakespeare. Realizing that capital and labor have obligations to each other may prevent a replica of what started to happen in Germany in 1914.





## Consideration of Course to Supply Training and Preparation for In- dustrial Pursuits.

It is with conditions such as these that I shall outline my idea of what this course might contain. If one is to guide and counsel with pupils, he must have something toward which to guide them, and which will prepare them adequately to take their place as members of our social, civic, and industrial fields.

### Teachers of High Ideals Needed.

"In attempting to direct boys and girls, one of the things to remember is that we are all imitators of those whom we admire...." 14

When this statement was written it had reference to the world's great men and women, but it may also apply to our teachers. The first requisite is to get the best teachers possible, teachers who are scientifically trained, and have an understanding of the needs, incentives, and possibilities of these boys.

### Outline of Studies for First Year.

During the first half of the freshman year the members of this course would, of course, be found in various curricula, and then not be shifted until mid-year, at least such would be the case under our present system. The studies they will have been acquainted with would be English, Algebra, (or in the case of

Continuation of Letter No. 10  
to the Honorable Secretary of the  
War Department, Washington, D.C.

It is with reference to the fact that I have  
mentioned in my letter of the 10th inst. that I  
am in a position to furnish the War Department  
with certain information which I believe will  
be of great value to the War Department in  
its efforts to secure the most efficient  
use of its resources, and I am, therefore,  
submitting this information to you.

I am, therefore, submitting to you  
a statement of the facts which I believe  
will be of great value to the War Department  
in its efforts to secure the most efficient  
use of its resources, and I am, therefore,  
submitting this information to you.  
The facts which I am submitting to you  
are of a confidential nature, and I am,  
therefore, submitting them to you in confidence.  
I am, therefore, submitting them to you  
in confidence, and I am, therefore, submitting  
them to you in confidence.

Very truly yours,  
[Signature]  
[Name]  
[Address]  
[City]  
[State]  
[Country]



Commercial students, Commercial Arithmetic) General Science, Shop Work and Drawing. Most of them will have failed to have derived high marks or great benefits from these subjects. From this time on these students might be called members of the proposed two-year course. Some of their studies will be continued, although, with emphasis in slightly different directions than if they continued along the regular Cooperative Industrial curriculum. The English should consist of reading, oral themes, some writing, and to have grammar taught through use of words in their proper places, not by merely drilling on nouns, adjectives, and adverbs. Of course, spelling will call for some drill work, but the need for spelling should be emphasized in the theme writing. I had an interesting observation of this fact a short while ago when we were discussing in a junior class some writing the boys were doing. We had decided to try to write a series of articles on various shop problems and tools. One of the boys immediately asked if I required that the spelling and punctuation would be correct. The rest of the class saw the point very quickly, and he did too. I do not believe that formal grammar may be entirely omitted, even if one is striving to learn to speak and write correctly. There will of necessity need to be some form of grammar taught as such, with some drill. One cannot very well learn to put words and phrases together unless one knows the correct usage and relationships of these words.

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DEPARTMENT OF THE HISTORY OF ARTS

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"The main object of the reading, theme writing and discussion should be to bring these young lives into touch with the truly great and good." 15

Mathematics is always a very difficult subject for the type of boy we are discussing, and yet the type of mathematics he needs is not merely a continuation of grammar school problems. I believe this may be found in the simpler forms of Algebra, with considerable algebraic interpretation to realize the meaning and work benefits derived from formulas. Graphs are also valuable, and when used in connection with problems that the boy has first hand, should furnish their own motivation. General Science should be general. Some stress should be placed on the need for proper living and health requirements. It is from homes of the standard that these boys will build that we hope to have the background of the community among our industrial workers. I do not think that a great deal of time should be given over to shop work. Enough should be had so that the boy may gain the satisfaction of doing things for himself. Small though it may seem at times, and inadequate though it may appear, an object made gives much more inner satisfaction and a feeling of having accomplished something than does the same thing if bought. It is an incentive such as this that carries some men to great heights of financial success, others to the building of a chicken house or dog kennel. We should





try to arouse this latent feeling in the boys, and when a boy has once experienced the delight and glow of pride that comes from such an accomplishment, it is much easier to aim for the same goal a second time.

Although the boy may never operate a lathe or a milling machine, yet if he is a factory operative, he will come into contact time and again with fixtures and jigs made with the aid of the machines mentioned. The principles found in the lathe, miller, planes, drill press are all applied, only in a more specialized form on machines. I believe it would also be well to have the lads visit the different industries as part of the shop work, and follow these visits up with explanations and discussions. No matter what the work may be in a shop, specifications are always in demand, and even on production jobs work must be turned to a certain size, perhaps to fit a guage, and at times to fit other measurements such as calipers and blocks. It is well for a boy to know the value of a blueprint, and at least be able to read the more elementary drawings. Who knows but that some day he may have an idea concerning some process, and to better illustrate it, sketch his idea on paper. I have in mind the holder of a valuable patent at the present time who is only an operative in one of the factories. Another aim that may be striven for in mechanical drawing is that of accuracy. Slipshod work is not tolerated any-





where, and it is a good thing for these lads to realize that before starting in to work in the factory. Of course I do not intend that the boy should be penalized for every error, and believe that inaccuracy is paid for only by a penalty, but we should show him that in lay-out work, and in work which calls for accuracy, a mistake renders the piece useless.

There is another phase of the school that I believe very important for these boys to have, namely, physical education. Our ideas regarding physical work have changed considerably during the past few years, and we are learning to play, and to have team work rather than as we did in the past to handle dumb bells, indian clubs, wands, etc. It is very essential for the type of boys we are discussing to know the value of team work, and also the benefits derived from keeping in physical condition. He should be encouraged to take part in the school athletics, but even so, his physical training should consist more of the supervised type of recreational activity.

#### Outline of Studies for Sophomore Year.

And now for their sophomore year--a good many of these boys who will come back may have been at work in factories in the summer, or may have been too young to obtain such employment. Others will perhaps realize, or their parents realize, that the longer they stay in





school, the better they will be equipped to go on in life. For studies of the second year may I suggest English, Mathematics, Citizenship, Elementary Business, Drawing, and Shop.

The English course for the second year should place stress upon the reading of good books. There might be biographies concerning the lives of men who may serve as models; explorations, which would give the student a picture of something beyond his daily contacts, industrial stories, travel, and natural science. The writing of themes, and the expression of his ideas should also be encouraged both in written and oral form. No matter what good work the English department may be doing, unless there is the cooperation of the other teachers in carrying over into their own courses the correct usage and application of what has been learned in English, the boy looks upon English as a necessary evil, rather than an aid to help him in his other studies. This should be kept in mind throughout the entire course, since our aim in English is such that we wish to make it of practical use.

The amount of time given to these various subjects will vary. Mathematics should be allowed four periods a week, English five, Drawing and Shop eight, (since these are not prepared subjects) General Science five, and the Orientation course one. In addition to this, there will be probably two periods of Physical





Educational work. Such a program would not be overburdensome, and would allow one study period a day, or its equivalent in a six-period day, thirty-period week.

The main purpose of such a course should be kept uppermost in the mind of all the teachers, not that a certain amount of subject matter must be covered, but that the student should be prepared for industrial life with as much a background of studies as he can obtain to help him make his adequate adjustment to this life.

For Mathematics a knowledge of geometric constructions, formulas, and calculating of related problems would prove of help to the student. The problems should not be of too technical a type, nor merely to have a problem, but should be such that the boy will see the usage. The figuring of speeds, pulleys, and belts and the simpler mathematics of power may also be of benefit.

The Citizenship course for the sophomores should provide an opportunity for a study of the industrial growth of the United States, the duties, obligations, and benefits mankind receives from his participation in the social order. We should also consider the duties to our government, and some of the problems of present-day importance. This course should be primarily one of discussion and exchange of opinions and ideas.

It is also of benefit for every one of us to know the simple rudiments of business methods, and the

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elementary business course would teach the boy these things. He would learn about checks, banking, both value and methods, budgeting, become acquainted with various papers and forms used in ordinary business, such as buying and selling houses, insurance, etc.

The Drawing and Shop Work should be correlated with the boy's interest outside of school. It is impossible, due to economic reasons, to provide a shop where each boy may pursue bits of the trade in which he happens to be interested. If such were the case, we might have some tiremakers, battery repair men, radio service, automobile repair, carpenters, and in fact almost any number of related occupations. His work in drawing should be such as to make him acquainted with various samples or jobs he might work with in his chosen vocation, and his job in the shop, of course, might be the making of one or two projects in which he is interested. In a small school system this would be exceedingly difficult, but the boys' need might be met to some extent. And, of course, the boy would have his physical education.

The time allotted to the studies of the second year should be as follows: English four periods, Mathematics four, Citizenship three, Elementary Business three, Drawing four, Shop four. In addition to these, there would be two periods of Physical Educational work, leaving six periods for study or





an elective the boy might want. It is doubtful whether in most cases an elective would be wise, since the boy would probably have enough difficulty in getting along with the courses outlined, and would do much better to put his time in as supervised study.

A More Adequate Preparation Available  
Thru Above Method.

While such a scheme as I have outlined may seem rather visionary, I do not believe it is so altogether. It is true that in a small city the number of students who would be in such a course will at first hand seem small, and thus be very expensive. There is this to be said, however, that a good many students who now do not receive any benefit from high school education would keep on for the year or two such a course would allow them before entering upon their factory work. In such a case the cost of this type of education would be lowered so far as per pupil cost is concerned. Yet the question might be asked, "Would the student benefit enough from such a course to warrant spending a year or two, when he might be earning money if he worked in the factory?"

A grammar school background is not a sufficient basis upon which to build in these days of rapid progress and changing conditions. If it did nothing else, this course would present to the student problems which would confront him later on in life,





such as in Citizenship, Business English, and the appreciation of the simpler scientific discoveries to which he will find reference in all his reading and experience, particularly if his work is of a mechanical nature.

Another factor must not be forgotten, that staying in school will give the boy a chance to mature, and so to take his place in the work-a-day world better prepared. This thought may also be answered by the fact that many students in high school fail because of their immaturity, and having failed in school, are they not as likely to fail due to the same reasons when getting into industry?

With the set-up such as described, and having in mind some of the problems suggested, it can be seen that the problem of guidance is a much greater one for these students who will be members of such a course. They must be aided not only in making their adjustments to school, but in thinking about what will happen to them when they will have left the school. We must remember that we are dealing with the type of boy who in general will not have so great a mentality or capability of adaptation as the average student, and yet who will have to make and meet decisions in regard to his life work and adjustments much earlier than our other high school students.

The counsellor must be in very close touch with each student, and sense the individual problems.





In order to provide for the carrying out of the adjustments deemed necessary, he must have the full cooperation of every teacher in such a system.

### Counsellors of Proper Sort are Necessary.

And now for our counsellors. Who should be entrusted with such work as that of helping a youngster plan and mould his life?

### Summary of Edwin A. Lee's Indictment of Present-day Counseling.

Edwin A. Lee, in the Vocational Guidance Magazine of April, 1930, brings a severe indictment against our counseling practices. He pictures our system in a very frank and critical manner. To summarize:- first, it is too feminine, not that he is against the women, but that women are not adequate in dealing with boys regarding men's vocations. Second, the fact that many counsellors are such because they are not wanted on other jobs due to immaturity or old age is bad. Third, lack of vocational experience and outlook is brought to mind. Fourth, he mentions the lack of training in guidance theories and practices. Fifth, counsellors favor the course of liberal education too much, he claims.

### Training of Counsellors.

Taken as a whole, such a picture is not pleasant, and it is time we realized that a successful guidance





program depends on a successful and properly trained counsellor. Too often a counsellor does not appreciate the problems of industry. If possible, he should have worked in industry. He should have a broad education. Too many of our vocational teachers sneer at the academic, themselves fostering a spirit of hostility and criticism. The counsellor must be sympathetic and unselfish, yet he should inspire the respect of his students. He must know all the psychology and testing possible, and yet keep human--this is a great task. He should have a personality and knowledge that will carry him on both in school and in the shop. Too many of our school men fail in the shop, and once let a counsellor lose caste in the eyes of shop men, his job is cut out for him in regaining his former place. Perhaps we can sum it up in these words--"He should live as a real man himself."

#### Placement Division.

A placement division should be instituted to co-operate with the industries and stores where the boy will find employment when ready to take this step. The counsellor's work is not over yet, for he will need to keep in touch with this new-comer among the workers, and help him to meet the problems now that he has come upon them face to face.





We try to do this guidance work for our students who are successes, and who graduate from our high school, and yet does not the fact that these students are successful augur that they are much more capable of caring for themselves than others who obviously are unsuccessful? Do we not owe these others, and do not they need much more of the kind of help that a counsellor familiar with industrial conditions can give them? They need the preparation, and they need the guidance. It is our duty to see that such is available to them.





## Summary

In order to secure the type of worker trained to meet the demands of modern industry, education must play a large part, and through the development of various systems of industrial training our schools have attempted to meet such demands.

Various systems of part-time, or cooperative school, and industrial education have been tried, experiments along this line still being continued. In some sections of the country the experiments have been far from successful, notably in New York, but this may not be due entirely to the general idea of cooperative education, but rather to the local set-up. Other sections are enthusiastic over this system which provides a student with the theoretical and basic background, at the same time giving him practical experience along his chosen trade.

The guidance needs of boys in this course are very evident, and must be met from grammar school through the entire course. Since these students must make their decisions early, and as permanently as possible, we should try by every means at our disposal to ascertain whether or not the decision made is the proper one. A particular type of ability and intelligence is demanded in order to make the kind of success industrially that a course of this type aims for. The counsellor must use every means at his disposal, including tests, opinions of the

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student, and above all, an analysis of each boy before he may be at all certain that the step taken in choosing a particular curriculum is the right one.

The value of the so-called aptitude tests has not been established on a firm enough basis for a counsellor to place absolute reliance on. This is especially true of group tests. As a well-known educator said recently, "Testing a group to determine the best ones for a single operation is far different from determining what occupation is best for each one of the group". It is from an angle of determining the fitness of an individual for mechanical operations that most advance along this line has been made, and we as counsellors must not make decisions or influence students without a realization of this.

The failures in such a course will naturally be high, and even if we do not consider such failures from the educational aspect, since the type of boy in question cannot through his own capabilities ever prove successful in industry, we owe this student an education which will fit him to take his place in the world as best for himself and society.

Industry has a place for such a boy, but the problem of fitting him with a task that is suitable for him and that will give him a chance to live a happy normal life is a difficult one. He has not the adaptability of his more fortunate friends to various lines of endeavor, but his contribution to society, in its way, is just as im-





portant, His need is primarily one of adequate education to meet his particular needs.

A course which would give the fundamental training in Citizenship, Vocational training, and a preparation to meet the problems of the shop and factory, will help solve such a problem.

The guidance work connected with this enterprise is closely correlated with that of any vocational guidance. From the data gathered it was found that schools in general which have Cooperative Industrial courses do very little guidance work. Is it surprising then that we have so many maladjusted students and such a marked drop-out from our Cooperative Industrial courses? The schools which have guidance and testing have fewer drop-outs. Not only will the proper guidance save the school money, the factory wasted time and poor production by the apprentice, the boy some months, or even years, of life which might be put to better advantage, but will also help that boy to avoid the unhappiness and dissatisfaction caused by his maladjustment and probably manifested in later life.

To conclude, Cooperative Industrial education in connection with high school training helps solve a problem of education for an industrial career, but in its present state, such a course does not provide adequate education for the boy who has not the ability for highly skilled or sub-executive work. A course to meet such a





need should be available. Our guidance for students who wish to become industrial apprentices has a big challenge since it is on this factor the student's success and, in back of it all, society's gain is based. The guidance personnel must have a better training and experience than seems to be the case at present. The student's needs demand the very best help we can give him in carrying out his plans as modified and influenced by his abilities, mental and physical aptitudes, and personality qualifications.





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